

绿萝叶片的组织培养

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关键词 绿萝; 组织培养

绿萝 (*Epipremnum aureum* (Linden et André) Bunting) 系天南星科 (Araceae) 麒麟叶属 (*Epipremnum*) 的一种木质藤本植物, 常攀援于山石上、墙壁上或它树上附生, 分枝多, 枝悬垂, 园艺上用作荫棚悬挂植物。绿萝的叶片薄革质, 翠绿色, 一般 (特别是叶面) 有多数不规则的黄色斑块, 极为美丽, 它不仅是庭园观赏植物, 而且还可折枝插瓶, 经久不萎。本种不易开花, 通常都是无性扦插繁殖^[1, 2]。迄今为止, 关于绿萝的组织培养, 除1986年K. Y. Paek等人^[3]报道用*Scindapsus aureus* (*Epipremnum pinnatum*) 的茎尖和腋芽进行培养外, 尚未见到其他的报道。我们用绿萝的叶片进行培养实验, 初步结果简要报道如下:

材料和方法 绿萝的叶片材料是在夏天植株生长旺盛时从盆栽植株上切取的, 常规表面灭菌后, 将叶片切成1—1.3平方厘米左右的大小作为外植体, 接种于固体培养基上。我们使用了两种培养基: 起始培养基 (Initiation medium) 为MS (Murashige and Skoog)^[4]培养基, 附加6-BA, IAA, NAA, 2,4-D 和10%椰乳; 诱导培养基 (Inductive medium) 是SH (Schenk and Hildebrandt)^[5]培养基, 附加6-BA。在灭菌前, 将培养基的pH值用0.2N的NaOH调到5.8, 分装于50毫升的小三角瓶中, 在16磅/平方吋的压力下灭菌20分钟。培养室温度为 $25 \pm 1^\circ\text{C}$ 。每天照光12小时, 光照强度约1000 lx。

结果和讨论 我们在进行爬树龙 (*Rhipidophora decursiva* (Roxb.) Schott) 茎尖和茎节的组织培养过程中^[6], 困难的是培养材料的灭菌。鉴于绿萝和爬树龙两种植物, 在分类学上虽然两者不是同一个属, 但都是同属于天南星科的龟背族 (*Monstereae*)^[1], 而且在形态上, 生长习性上及其所需的生态环境等方面也都十分相似^[1, 2], 因此对绿萝的组织培养材料, 我们采用盆栽的绿萝的叶片来作为外植体, 因叶片易于灭菌。叶片表面灭菌后, 切成约1—1.3平方厘米大小的叶块作为外植体, 将它们接种于MS起始培养基上, 经过培养, 叶外植体的面积有不同程度的增大, 在外植体的边缘处逐渐产生愈伤组织 (图1), 并且分泌出红色色素于培养基内。此时将产生愈伤组织的外植体转接于SH诱导培养基上, 不久就在愈伤组织上产生小的白色圆形突起物, 这种圆形突起物逐渐长大, 上端出现绿色, 之后逐渐分化出幼芽 (图2)。将幼芽从叶片外

植体上切下，转接到新配制的培养基上作进一步培养，不仅幼芽长出了真叶，而且在其基部的绿色突起物上又分化出一些幼芽（图3）。

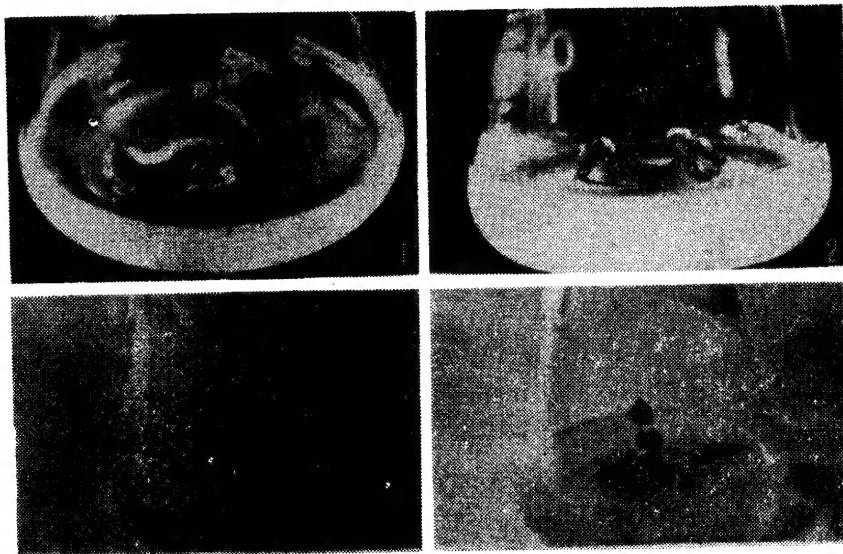


图1—4 1.叶片外植体边缘产生的愈伤组织；2.从绿色圆形突起物上分化的幼芽；3.从叶片外植体上切下幼芽并转接到新鲜的培养基上，而且长出真叶；4.叶柄切段上产生的愈伤组织和分化的芽，并且长出真叶。

Fig. 1—4 1. Calli produced from the margin of the leaf blade explants; 2. Young buds differentiating from the green and spherical outgrowths; 3. Young buds are excised from the leaf blade explants and transplanted to the fresh medium, and then true leaves grow out of the young buds; 4. Calli produced and young buds differentiating from a excised segment of leaf stalk, and that true leaves grow out of the young buds.

还进行了叶柄的培养实验，叶柄外植体也可产生愈伤组织，并分化出幼芽和长出了真叶（图4）。

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TISSUE CULTURE OF EPIPREMNUM AUREUM LEAF BLADES IN VITRO

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Abstract The excised segments of leaf blade of *Epipremnum aureum* (Linden et André) Bunting have been cultured on MS (Murashige and Skoog) medium supplemented with 6-BA, IAA, NAA, 2,4-D and 10% coconut milk. With the enlargement of leaf area of excised explants the margin of leaf explants gradually produced some calli. When these explants having the calli are transplanted to SH (Schenk and Hildebrandt) medium supplemented with 6-BA, the calli on the explants produce small, white and spherical outgrows, and the apices of outgrows appear green colour, and then the green outgrows gradually differentiate into young buds. When young buds are excised from the explants and transplanted to the fresh medium, the true leaves grow out of the young buds.

In addition, the excised segments of leaf stalk of *Epipremnum aureum* also can be cultured grown out young buds and true leaves on the same medium.

Key words *Epipremnum aureum*; Tissue culture

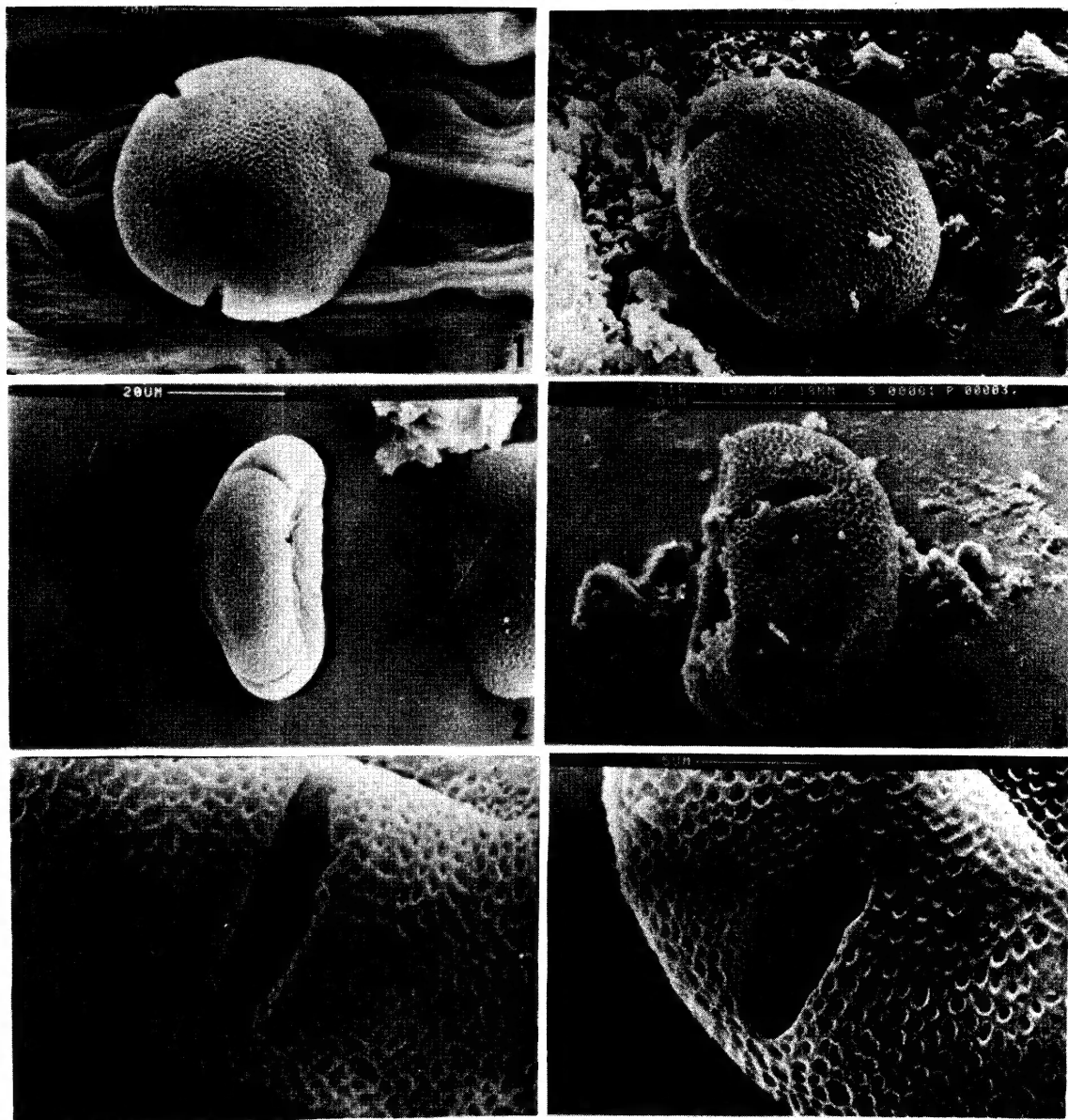


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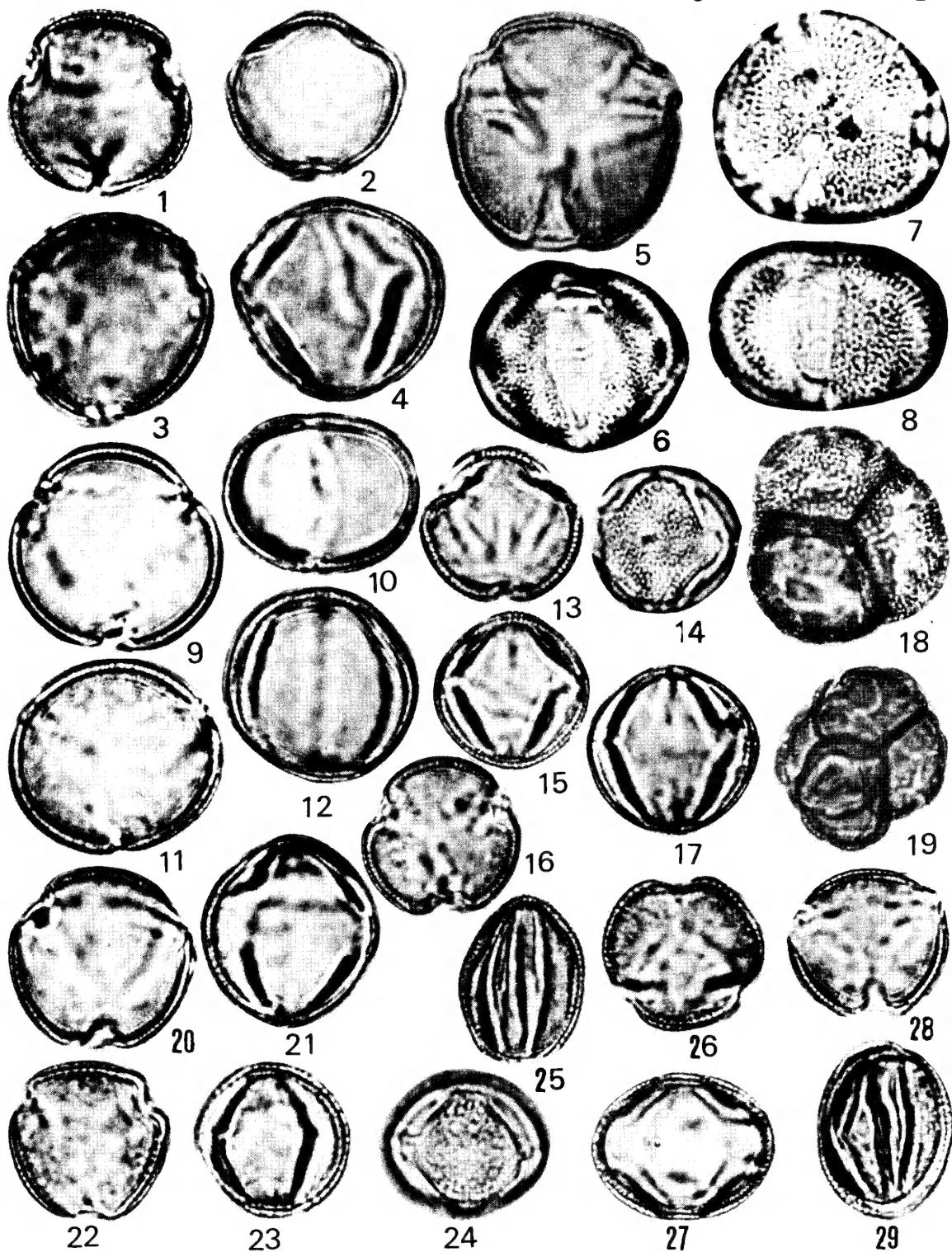
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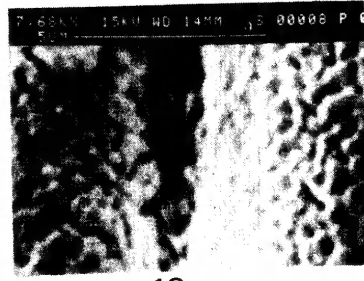
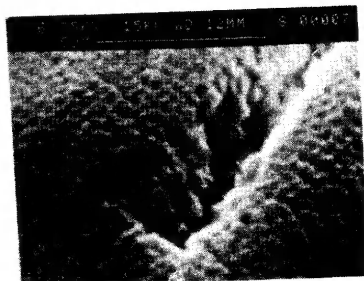
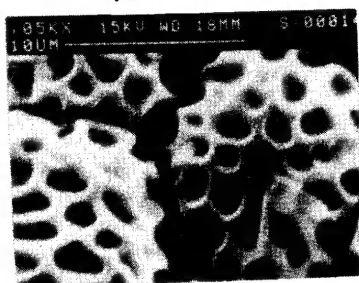
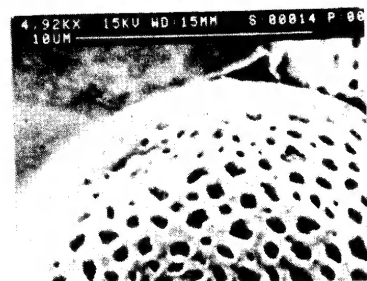
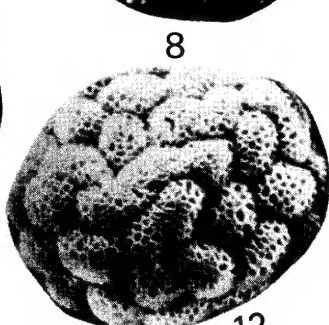
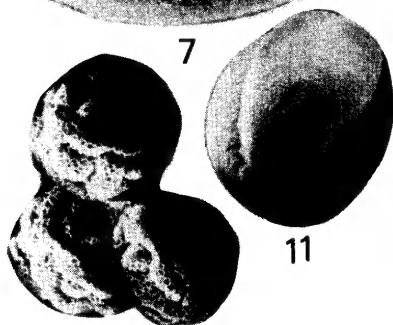
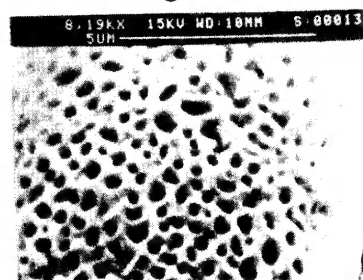
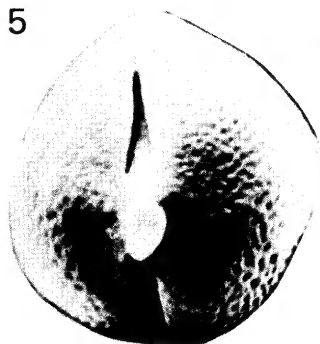
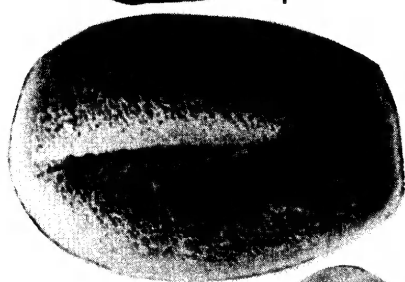
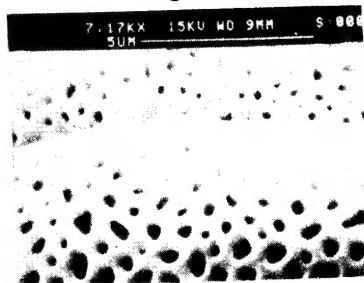
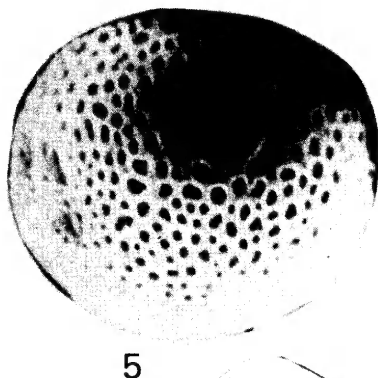
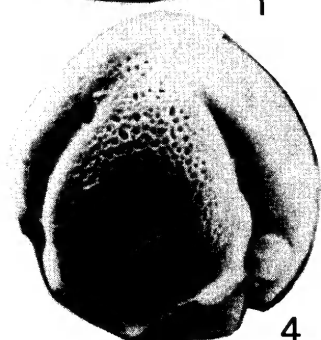
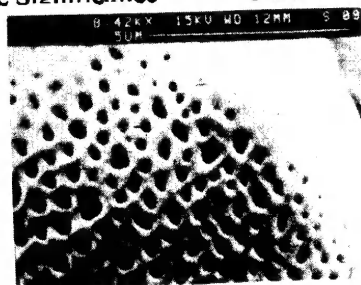
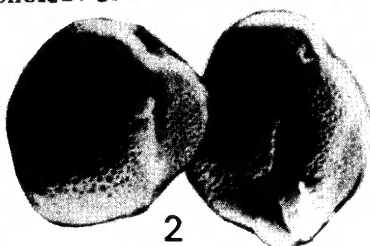
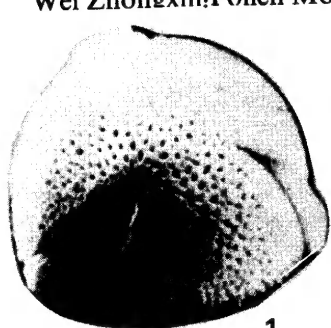
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1-3 椴 *Tilia tuan* (1.x1530; 2.x1260; 3.x6160)

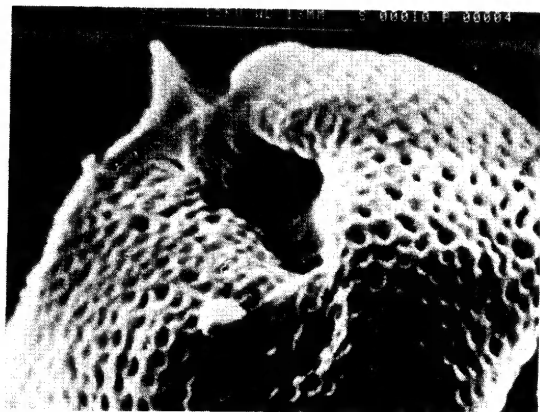
4-6 滇桐 *Craigia yunnanensis* (4.x1810; 5.x2110; 6.x5480)







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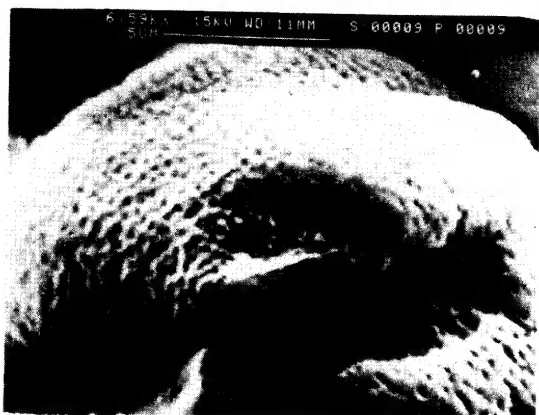
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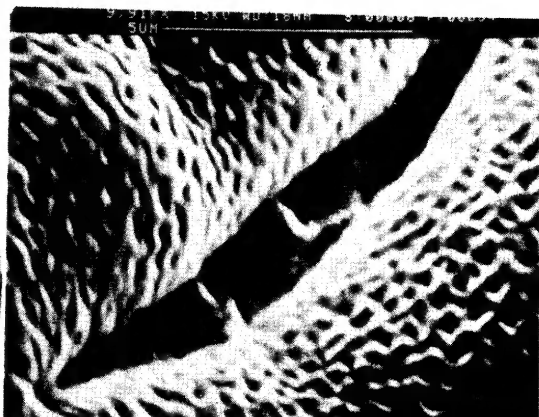
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